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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,388	11/20/2003	Frederick J. Carberry	TUC920030142US1	2579
35825	7590	06/12/2006	EXAMINER	
LAW OFFICE OF DAN SHIFRIN, PC - IBM			SZETO, JACK W	
14081 WEST 59TH AVENUE			ART UNIT	
ARVADA, CO 80004			PAPER NUMBER	
			2113	

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/719,388	Applicant(s) CARBERRY ET AL.	
	Examiner Jack W. Szeto	Art Unit 2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Non-Final Official Action

Status of the Specification and Claims

Claims 17-24 are rejected under USC 101.

Claims 1, 3-7, 9, 11-15, 17, and 19-23 are rejected under 102(e).

Claims 2, 8, 10, 16, 18, and 24 are rejected under 103(a).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 17-24 are rejected under 35 U.S.C. 101 as claiming non-statutory subject matter.

As per the specification, on page 13, para 0042, Applicant defines the article of manufacture may comprise of transmission media. Code on a transmission media is not tangible subject matter, thus these claims are non-statutory

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-7, 9, 11-15, 17, and 19-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Raman (United States Patent Publication No. 2003/0217119).

As per claim 1, Raman discloses:

A method of error management in a data storage system having
a target device [para 0055: secondary storage system],
the target device receiving commands from a first initiator device [para 0055: secondary storage system receives commands secondary host (first initiator)] and
the target device concurrently receiving commands from a second initiator [para 0055 & 0058: secondary storage system receives commands from primary storage (second initiator) and can concurrently receive read commands from secondary host (first initiator)],
the method comprising managing errors associated with a command sent to the target storage device from the first initiator independently [Fig. 5: errors from read commands (first initiator handled independently)] from errors associated with a command sent to the target device from the second initiator [para 0081: commands from primary storage (second initiator) handled differently than from the host].

As per claim 3, Raman discloses:

The method of claim 1 wherein managing errors associated with a command sent to the target device from the first initiator independently from errors associated with a command sent to the target device from the second initiator comprises:

determining the initiator type which has issued a command to the target device [inherent since the system responds to the errors with message to the corresponding initiator, thus there must be a method to determine the initiator type];

applying a first error recovery procedure to manage errors associated with a command directed to the target device from the first initiator [Fig. 5: errors from read commands handled by returning error code to the initiator (error recovery procedure)]; and

applying a second error recovery procedure to manage errors associated with a command directed to the target device from the second initiator [para 0081: error recovery procedure for commands from the second initiator involves suspending write operations by the primary host processor, re-synchronizing the file system secondary storage with the file system primary storage, and restarting the delta volume facility].

As per claim 4, Raman discloses:

The method of claim 1 further comprising preventing errors associated with a command directed to the target device from one of the first initiator and the second initiator from affecting access to the target device by the other of the first initiator and the second initiator [Fig. 5 and para 0061: error associated with command from first initiator is handled and system proceeds] [para 0081: error associated with command from second initiator is handled and system proceeds].

As per claim 5, Raman discloses:

The method of claim 1 further comprising allowing only one of the first initiator and the second initiator to have write access to the target device at a select time [Fig. 1: only one of the initiator has write access].

As per claim 6, Raman discloses:

The method of claim 3 wherein the first error recovery procedure differs from the second error recovery procedure [Figure 5 and para 0081: two different procedures for handling errors from each initiator].

As per claim 7, Raman discloses:

The method of claim 1 wherein the first initiator is a server [Fig. 1: host equivalent to server] and the second initiator is a storage device [Fig. 1: primary storage system].

Claims 9 and 17 contains the same subject matter as claim 1, thus claim 1 will be used as an example rejection of claims 9 and 17.

Claims 11 and 19 contains the same subject matter as claim 3, thus claim 3 will be used as an example rejection of claims 11 and 19.

Claims 12 and 20 contains the same subject matter as claim 6, thus claim 6 will be used as an example rejection of claims 12 and 20.

Claims 13 and 21 contains the same subject matter as claim 4, thus claim 4 will be used as an example rejection of claims 13 and 21.

Claims 14 and 22 contains the same subject matter as claim 5, thus claim 5 will be used as an example rejection of claims 14 and 22.

Claims 15 and 23 contains the same subject matter as claim 6, thus claim 6 will be used as an example rejection of claims 15 and 23.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2, 8, 10, 16, 18, and 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Raman (United States Patent Publication No. 2003/0217119), and further in view of West (United States Patent No. 6,446,176).

As per claim 2, West discloses:

The method of claim 1 wherein the first initiator communicates with the target device through Small Computer Systems Interface (SCSI) protocol [column 4, line 13: scsi link between host and secondary device] and the second initiator communicates with the target storage device through Peer-to-Peer Remote Copy (PPRC) initiator mode commands [column 3, lines 63-66].

Both Raman and West disclose data storage system where data are mirrored from primary system to a secondary system. Raman's system does not disclose the use of SCSI protocols for communications between the host (server) and the target device and PPRC protocol

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for communications between the second initiator and target device. However, West does disclose both these protocols. The use of SCSI protocols for communication between a host and a storage system is well known in the art and allows for greater accessibility and speed. The use of PPRC protocols for communication between two storage systems which mirror each other's data is also well known in the art and the PPRC protocols allows for synchronous copy of data [column 1, lines 28-44]. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to use SCSI and PPRC protocols as taught in West into the data storage system of Raman for greater accessibility/speed and synchronous copy of data, respectively.

As per claim 8, West discloses:

The method of claim 7 wherein the storage device is a PPRC primary storage device and the target device is a PPRC secondary storage device communicating with the PPRC primary storage device [column 1, lines 28-44 and column 3, lines 63-66].

Both Raman and West disclose data storage system where data are mirrored from primary system to a secondary system. Raman's system does not disclose the use of PPRC protocol for communications between the second initiator and target device. However, West does disclose this protocol. The use of PPRC protocols for communication between two storage systems which mirror each other's data is also well known in the art and the PPRC protocols allows for synchronous copy of data [column 1, lines 28-44]. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to use PPRC protocols as taught in West into the data storage system of Raman for synchronous copy of data.

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Claims 10 and 18 contains the same subject matter as claim 2, thus claim 2 will be used as an example rejection of claims 10 and 18.

Claims 16 and 24 contains the same subject matter as claim 8, thus claim 8 will be used as an example rejection of claims 16 and 24.

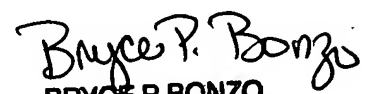
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack W. Szeto whose telephone number is (571) 272-1537. The examiner can normally be reached on M-F 8 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jws


BRYCE P. BONZO
PRIMARY EXAMINER